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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,707	02/07/2006	Mikio Sugimoto	4900.P005GUS	3892
23474 7590 09/17/2009 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER				
PHASGE, ARUN S				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
09/17/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,707

Applicant(s)

SUGIMOTO, MIKIO

Examiner

Arun S. Phasge

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/08)
Paper No(s)/Mail Date 2/7/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

Regarding claims 17 and 18, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 6-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of the claims recite that the claims are a manufacturing method, the water treatment method, a manufacturing device and a water treatment apparatus. Method and apparatus or device are different statutory classes or invention and it is unclear which class of invention is being claimed in the claims.

Furthermore, in claims 6, 8 and 9 the claims recite "other metal". It is unclear what this other metal means. Is it one of the two metals or is it a third metal?

Claim 11 is unclear what happens by the processing. Claims 12 and 13 are further rejected, because the scope of "forming like metal wires" or "formed like a string" is unclear.

In claim 16, "the other side of a core member" lacks antecedent basis. In claim 3, "the dissolved oxygen" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 14-15, 19, 20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hradil, U.S. Patent 6,287,450 B1.

The Hradil patent discloses the claimed method and apparatus for the treatment of water by the use of metal ions by submerging a galvanic couple formed by two dissimilar metals to elute metals from the anode metal, wherein the two metals are in contact with one another (see col. 6, lines 28-44). The reference further teaches the

same types of metals and the contact means as claimed (see col. 6, lines 28-44 and the abstract).

Accordingly, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hradil as applied to claims above, and further in view of Mastrorilli, U.S. Patent 4,035,269.

The Hradil patent while teaching the use of metals, such as copper, zinc and silver fails to teach the use of metals, such as iron or tin.

The Mastorilli patent is cited to show the use of iron and tin as metals useful in the galvanic treatment of water (see col. 5, lines 35-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hradil by the teachings of Mastorilli.

One having ordinary skill in the art would have been motivated to do this modification, because the Mastorilli patent teaches the equivalence between the selected metals.

Claims 13, 16, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hradil as applied to claims above, and further in view of Gillham et al. (Gillham), U.S. Patent 5,868,941.

The Hradil patent fails to teach the use of other metals and materials for the electrodes, such as aluminum or magnesium. The patent further fails to teach the use of one metal plated onto the other to form the metallic couple.

The Gillham patent is cited to show the equivalence between the metals disclosed in Hradil and the aluminum and magnesium (see col. 5, lines 42-46). The reference further teaches that one of the metals forming the metal couple can be coated

onto the other, which would read upon the claims directed to the plated metal couple (see col. 5, lines 44-46).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hradil by the teachings of Gillham.

One having ordinary skill in the art would have been motivated to do this modification, because the Gillham patent teaches the equivalence between the metals disclosed by Hradil and the other metals and combinations further claimed in the present application.

Claims 6-12 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hradil in view of Gillham as applied to claims above.

The Hradil patent uses a two metal combination that are overlaid permanently one upon the other to allow a physical and electrical contact (see col. 6, lines 28-43). The Hradil patent fails to teach the use of a metal couple that has one of the metals coated onto the other in permanent and physical and electrical contact. The Gillham patent teaches the equivalence between the overlaid metal layers and the use of a coated two metal couple (see col. 5, lines 44-46).

Neither of the patents teaches the need for the scraping or cutting of the overlaid metal coat to expose the metal underneath to the water to be treated. However, both

the patents teach that the water must contact both the metals to form the galvanic couple (see abstract of Gillham and col. 6, lines 28-43 of Hradil).

It would have been obvious to one having ordinary skill, given the disclosure of Gillham with one metal coating the other, to provide means to allow both the metals to contact the water being treated and the use of cuttings would have been an obvious way to accomplish the contact necessary for the galvanic couple to work. The shapes of the cuttings are within the skill of the ordinary artisan.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arun S. Phasge/
Primary Examiner, Art Unit 1795

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